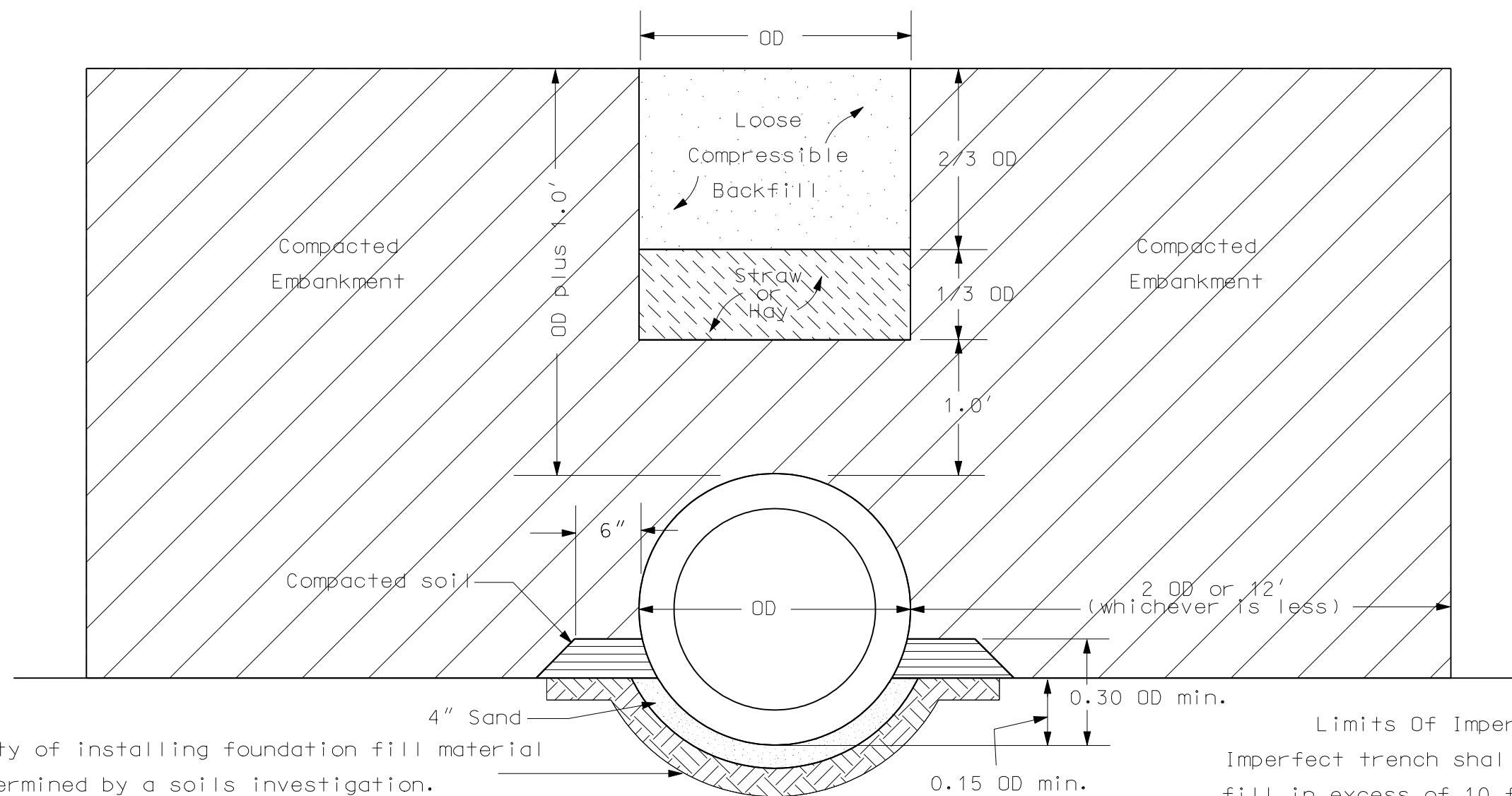


## IMPERFECT TRENCH INSTALLATION



The necessity of installing foundation fill material will be determined by a soils investigation.

Limits Of Imperfect Trench:  
Imperfect trench shall be applied to all fill in excess of 10 feet above the pipe.

## CONSTRUCTION SEQUENCE:

1. The pipe shall be carefully bedded on clean sand or well rounded gravel (max. size  $\frac{3}{8}$ ") of a 4" minimum thickness over an earth foundation accurately shaped by means of a template to fit the lower part of the pipe for a depth of at least 15% of its outside diameter. Select fill material shall then be rammed and tamped in layers not more than 6" thick around the pipe for the remainder of the lower 30% of its outside diameter.
2. The backfilling shall be completed to a width on each side of the pipe equal to two times the outside diameter or 12 feet whichever is less and to an elevation above the top of the pipe equal to the outside diameter plus one foot. The backfilling shall be done in accordance with section 714.03 A.6 of the Standard Specifications.
3. A trench equal in width to the outside diameter of the pipe shall then be excavated in the fill directly over the pipe down to an elevation of one foot over the top of the pipe keeping the trench sides as nearly vertical as possible.
4. The lower  $\frac{1}{3}$  of the trench shall be filled with straw or hay. The remainder of the trench shall then be refilled with loose highly compressible soil. After the imperfect trench backfill is completed, the balance of the fill shall be constructed by normal methods up to the finish grade of the embankment.
5. The contract unit price bid for the pipe culvert shall be considered full payment for all materials, equipment, tools, and incidentals required to complete this item of work as specified.
6. This standard not applicable to multiple culvert installation.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
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REVISIONS	
DATE	CHANGE
05-16-88	Note added
06-26-03	Layout revision
12-01-04	PE stamp added

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